GYPSY Series Hydrogen Gas Detectors

Figure 1 GYPSY Series Hydrogen Detectors

The GYPSY Series consists of three portable hydrogen detectors (GYPSY–100, GYPSY–50 and GYPSY-25) with visual alarms only that can be used for monitoring hydrogen gas levels and potential hydrogen gas leaks in industrial and commercial facilities. The GYPSY Series compact form factor and portability allow it to be used in many challenging applications where audible alarms are not an option, and it's not possible to use existing hydrogen detectors because of their weight, size and cost.

- GYPSY-100 detects hydrogen gas in the linear range of 0 to 100% LEL (0 to 40,000 PPM or 0 to 4% hydrogen by volume in air).
- GYPSY-50 detects hydrogen gas in the linear range of 0 to 50% LEL (0 to 20,000 PPM or 0 to 2% hydrogen by volume in air).
- GYPSY-25 detects hydrogen gas in the linear range of 0 to 25% LEL (0 to 10,000 PPM or 0 to 1% hydrogen by volume in air).

These hydrogen detectors allow early warning detection of highly flammable hydrogen gas and prevention of hazardous and unsafe conditions from potential hydrogen gas buildup.

VISUAL ALARM	GYPSY-25	GYPSY-50	GYPSY-100
GREEN	0% LEL = 0% H_2	0% LEL = 0% H_2	0% LEL = 0% H_2
BLUE	6.25% LEL = 0.25% H_2	12.5% LEL = 0.5% H_2	25% LEL = 1% H_2
YELLOW	12.5% LEL = 0.5% H_2	25% LEL = 1% H_2	50% LEL = 2% H_2
ORANGE	18.75% LEL = 0.75% H_2	37.5% LEL = 1.5% H_2	75% LEL = 3% H_2
RED	25% LEL = 1% H_2	50% LEL = 2% H_2	100%LEL = 4% H_2
FLASHING RED	Sensor Fault	Sensor Fault	Sensor Fault
FLASHING WHITE	Low Battery	Low Battery	Low Battery
FAST FLASHING WHITE	Very Low Battery	Very Low Battery	Very Low Battery

Hydrogen Gas Sensor

The GYPSY Series integrate MEMS micropellistor hydrogen gas sensors, based on Kebaili's proprietary 1mm^2 MEMS chip micro-hotplate platform technology.

The MEMS hydrogen gas sensor detection principle is micro-catalytic oxidation reaction of hydrogen gas. It is highly sensitive and selective to hydrogen gas with no cross-sensitivity to carbon monoxide or methane.

FEATURES

- Intelligent microcontroller-based design, with continuous self-testing operation.
- User initiated automatic and nonintrusive digital calibration with no trimpots or potentiometers user adjustment.
- Four factory preset visual gas level alarms.
- Visual sensor fault alarm.
- Two visual low battery alarms.
- Very compact and strong small form factor aluminum housing.
- Powered by a rechargeable lithium ion battery.
- More than 30 hours of continuous operation on a single charge.

Figure 2 GYPSY Series Kit

SPECIFICATIONS

- Sensor Type: Hydrogen gas specific MEMS micropellistor sensor.
- Sensor Life: Typical 5+ years.
- Detection Range: 0-100% LEL, 0-50% LEL and 0-25% LEL
- Detection Accuracy: +/- 0.5% LEL
- Zero Drift: < +/- 0.1 mV/month
- Linearity: Linear response from 0 to 100% LEL
- Response Time: T50 = 1 sec & T90 = 3 sec
- Recovery Time: 2 sec

- Power: Rechargeable lithium ion battery (30 hours on a single charge).
- Temperature Range: -20°C to 55°C (-4°F to 131°F)
- Humidity Range: 0% to 100% RH (non-condensing) during continuous operation.
- Dimensions: (119 x 24) mm, (4.67 x 0.93)".
- Weight: 90 g (3.17 oz)

APPLICATIONS

- Forming gas (5% H_2 and 95% N_2) leak detection in hydraulic systems during maintenance or manufacturing
- Battery rooms
- Laboratory monitoring
- Process gas leak detection
- Uninterruptible power supplies (UPS)
- Battery charging systems
- Hydrogen gas carrier leak check in gas chromatography
- Electrolyzers and hydrogen generators
- Hydrogen powered fuel-cell applications
- Industrial and commercial applications

Figure 3 GYPSY Series Calibration Cap

ACCESSORIES

- KCC-200 calibration cap
- Charger for lithium ion battery
- Screwdriver with magnet

Like any other catalytic bead sensors, the MEMS micropellistor hydrogen gas sensor is susceptible to a variety of poisoning compounds including silicone, lead, chloro-fluoro carbons (CFC's) and high concentrations of hydrogen sulfide (H2S).

WARRANTY INFORMATION

Kebaili Corp. warrants its products to be free of defects in materials or workmanship and will repair or replace without charge any hydrogen gas detector that is found to be defective

for three years for the electronics and one year for the hydrogen gas sensor after the date of purchase. Hydrogen gas sensors that are damaged by exposure to poisoning contaminants such as silicones, chlorine, halogenated compounds, hydrogen sulfide (H2S), or any polymerizing gas are not covered by this warranty. Further, hydrogen gas sensors that have failed due to incorrect hookup are not covered by this warranty.

Kebaili Corp. reserves the right to make the final determination of the nature of and responsibility for defective or damaged equipment. Equipment that has been repaired or modified by the user, damaged as the result of an accident, incorrectly installed, or used in an application or environment for which it was not intended is not covered by this warranty. Kebaili Corp. responsibility under this warranty shall be limited to the repair or replacement of the defective equipment at its option when it is returned to the factory transportation prepaid. The defective unit will be repaired or replaced free of charge to the customer and returned transportation prepaid. In all cases, this warranty is limited to the cost of the equipment.